UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,871	07/28/2003	Laxmi Priya Parida	YOR920030198US1	3644

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EXAMINER
NGUYEN, LINH V

ART UNIT	PAPER NUMBER
2819	

MAIL DATE	DELIVERY MODE
04/15/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/627,871	PARIDA ET AL.
	Examiner	Art Unit	
	Linh V. Nguyen	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>6/28//03</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-25</u> is/are pending in the application. .

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1 – 10, 13 – 19, 21 – 22, and 24 – 25</u> is/are rejected.

7) ☒ Claim(s) <u>11, 12, 20 are 23</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>06/28/07</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to communication filed on 6/28/2003. Claims 1 –

25 are pending on this application.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed
> publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3.   Claims 1 – 10, 13 – 19, 21 – 22, and 24 – 25 are rejected under 35 U.S.C. 102(b)

as being anticipated by Trelewicz Pub. No.: 2003/0090740.

Regarding claim 1, Fig. 4 of Trelewicz discloses A apparatus for data

compression comprising: an identifier (410a, b, c) which identifies a plurality of

irredundant patterns (paragraph 0019 discloses plurality of redundant patterns; since

the terminology "irredundant" in the claim does not has any specific meaning, which is

distinct from redundant; therefore irredundant is anticipated by redundant of Trelewicz)

in a data set (212); and an extractor (410a, b, c) which extracts at least a portion (430)

of said plurality of irredundant patterns (410a, b, c) from said data set (212) to generate

a compressed data set (470).

Regarding claim 2, Fig. 5 and Fig. 6 further disclose wherein a more frequently

occurring irredundant pattern (Solid pattern of 1's) is extracted before a less frequently

occurring irredundant pattern (See 6 for disclosing more frequently of 1 in Solid pattern is extracted before less frequently of 1 in Edge and half-tone pattern)

Regarding claim 3, Fig. 4 further comprising: an ordering device (450) which orders said plurality of irredundant patterns (430 a, b, c) according to a frequency (Fig. 5) of occurrence in said data set (212).

Regarding claim 4, Fig. 4 further comprising: an input (212) for inputting said data set (212); and an output for outputting said compressed data set (470).

Regarding claim 5, Fig. 5 further discloses wherein said at least a portion (Edge) of said plurality of irredundant patterns (pattern data) extracted from said data set (Raster Data) comprise irredundant patterns (Edge) having a minimum frequency of occurrence (minimum of frequency of 1's).

Regarding claim 6, wherein an irredundant pattern in said plurality of irredundant patterns (pattern ID) comprises a maximal motif (Solid maximum of redundant 1's), said maximal motif (Solid) and a location list (pattern data) of occurrences (1) for said maximal motif (Solid maximum of redundant 1's) being incapable of being deduced by a union of a number of location lists of other maximal motifs (Edge, Half-tone).

Regarding claim 7, wherein said maximal motif (Solid of 1's) is maximal in composition and maximal in length (maximum of 16 bits length of raster data).

Regarding claim 8, wherein said maximal motif (Solid of all 1's) is devoid of a don't care character (no other characters besides all character of 1's).

Regarding claim 9, wherein said data set (212) comprises one of a character string and a character array (Fig. 5 Raster Data).

Regarding claim 10, wherein said identifier (410, 1, b, c) identifies said plurality of irredundant patterns according to an irredundant pattern discovery algorithm (Fig. 6).

Regarding claim 13, Fig. 4 – 6 further comprising: an input (inputs of 610, 620, 630) for inputting parameters (608) for said irredundant pattern (610, 620, 630) discovery algorithm, said parameters (608) comprising a string length for said data set (Fig. 5 Raster Data), a minimum number of times (half-tone pattern discloses minimum number of times of 1's)) said irredundant pattern (Pattern of 1's) must appear in said data set (Raster Data) to be extracted, and a maximum number of consecutive don't care characters (maximum number of don't care characters 0's) allowed in said irredundant pattern (pattern ID).

Regarding claim 14, wherein said data set (212) comprises one of image data, text data, music data and genetic sequence data (paragraph 0007).

Regarding claim 15, wherein said identifier and said extractor comprise a same device (410a, b, c).

Regarding claim 16, Fig. 1b disclose a facsimile machine comprising the apparatus according to claim 1.

Regarding claim 17, Fig. 1b discloses computer comprising the apparatus of claim 1.

Regarding claim 18, the claim incorporated the same subject matter as of claim 1, and rejected along the same rationale.

Regarding claim 19, the claim incorporated the same subject matter as of claim 4, and rejected along the same rationale.

Regarding claim 21, Fig. 12 discloses a data decompression apparatus comprising: an identifier (1210) which identifies said irredundant patterns (460) extracted from said data set (Fig. 1[212]) in said data compression apparatus (Fig. 4); and an inserter (1220) for inserting said extracted irredundant patterns (1212a, b, c)) from said data set, into said compressed data set (430a, b, c), to reproduce said data set (212).

Regarding claim 22, the claim incorporated the same subject matter as of claim1 above, and rejected along the same rationale.

Regarding claim 24, Fig. 1b discloses programmable storage medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method of data compression (Fig. 4), said method comprising: identifies a plurality of irredundant patterns (paragraph 0019) in a data set (212); and an extractor (410a, b, c) which extracts at least a portion (430) of said plurality of irredundant patterns (410a, b, c) from said data set (212) to generate a compressed data set (470).

Regarding claim 25, Fig. 6 discloses a method for deploying computing infrastructure in which computer-readable code is integrated into a computing system (Fig. 1b), and combines with said computing system to perform a method of data compression (Fig. 6), said method of data compression comprising: identifies a plurality of irredundant patterns (paragraph 0019) in a data set (212); and an extractor (410a, b, c) which extracts at least a portion (430) of said plurality of irredundant patterns (410a, b, c) from said data set (212) to generate a compressed data set (470).

Allowable Subject Matter

4.   Claims 11, 20 are 23 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art does not teach wherein said irredundant pattern discovery algorithm comprises: initializing a set of irredundant patterns in said data set; constructing said set of irredundant patterns for each solid character; constructing location lists for said set of irredundant patterns, said set of irredundant patterns being iteratively adjusted based on said location lists until no further changes occur to said set of irredundant patterns; and updating said set of irredundant patterns.

5.   Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art does not teach, wherein said irredundant pattern discovery algorithm comprises: computing one-character patterns; successively growing said one-character patterns by concatenating said one-character patterns with other patterns; trimming a number of growing patterns; and using a linearity of 2-motifs to bound a number of said growing patterns.

Contact Information

6.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh Van Nguyen whose telephone number is (571)

272-1810. The examiner can normally be reached from 8:30 – 5:00 Monday-Friday.
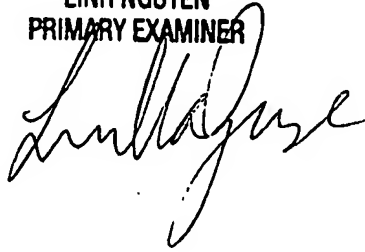
If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mr. Rexford Barnie can be reached at (571) 272-7492. The fax phone

numbers for the organization where this application or proceeding is assigned are

(571-273-8300) for regular communications and (571-273-8300) for After Final

communications.

4/18/07   LINH NGUYEN
                           PRIMARY EXAMINER

Linh Van Nguyen

Art Unit 2819